

PERMIT TO OPERATE

CENTRAL VALLEY FINANCING AUTHORITY - CARSON COGENERATION PROJECT
PO BOX 15830
SACRAMENTO, CA 95852-1830

EQUIPMENT LOCATION: 8521 LAGUNA STATION ROAD, ELK GROVE

TO OPERATE

PERMIT NO.	EQUIPMENT DESCRIPTION
12829(rev3)	GAS TURBINE, BASELOAD, GENERAL ELECTRIC, LM6000, COMBINED CYCLE, 450 MMBTU/HOUR, NATURAL GAS AND DIGESTER GAS FUEL
11014	DUCT BURNER, HEAT RECOVERY STEAM GENERATOR, 99.9 MMBTU/HOUR, NATURAL GAS AND DIGESTER GAS FUEL
11015	AIR POLLUTION CONTROL SELECTIVE CATALYTIC REDUCTION SYSTEM SERVING THE BASELOAD TURBINE AND DUCT BURNER

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL REQUIREMENTS

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

DATE ISSUED: 12-20-2000
DATE REVISED: 11-02-2004
DATE EXPIRES: 10-01-2005 (unless renewed)

LARRY GREENE
AIR POLLUTION CONTROL OFFICER

By: _____

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5. **MALFUNCTION** - THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED OF ANY BREAKDOWN OF THE EMISSIONS MONITORING EQUIPMENT, ANY ENGINE EQUIPMENT OR ANY PROCESS WHICH RESULTS IN AN INCREASE IN EMISSIONS ABOVE THE ALLOWABLE EMISSIONS LIMITS STATED AS A CONDITION OF THIS PERMIT OR ANY APPLICABLE STATE OR FEDERAL REGULATION OR WHICH AFFECTS THE ABILITY FOR THE EMISSIONS TO BE ACCURATELY DETERMINED. SUCH BREAKDOWNS SHALL BE REPORTED TO THE DISTRICT IN ACCORDANCE WITH THE PROCEDURES AND REPORTING TIMES SPECIFIED IN RULE 602 - BREAKDOWN CONDITIONS; EMERGENCY VARIANCE.
6. **SEVERABILITY:** IF ANY PROVISION, CLAUSE, SENTENCE, PARAGRAPH, SECTION OR PART OF THESE CONDITIONS, FOR ANY REASON, IS JUDGED TO BE UNCONSTITUTIONAL OR INVALID, SUCH JUDGMENT SHALL NOT AFFECT OR INVALIDATE THE REMAINDER OF THESE CONDITIONS.

EMISSION LIMITS REQUIREMENTS

7. THE EQUIPMENT SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT, OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
8. THE H₂S CONTENT OF ANY DIGESTER GAS COMBUSTED BY THIS EQUIPMENT SHALL NOT EXCEED 50 PPMVD H₂S, AVERAGED OVER ANY CONSECUTIVE THREE HOUR PERIOD.
9. EMISSIONS FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS, AVERAGED OVER A THREE HOUR PERIOD, NOT INCLUDING STARTUP AS DEFINED IN CONDITION NO. 21.

POLLUTANT	MAXIMUM ALLOWABLE HOURLY EMISSIONS BASE LOAD TURBINE + DUCT BURNER (LB/HOUR, 3-HOUR AVERAGE)
ROC	3.75
NO _x	9.28
SO _x	2.78
PM ₁₀	3.50
CO	40.00

10. EMISSIONS FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE DAILY EMISSIONS			
	PEAKING TURBINE (LB/DAY)	BASE LOAD TURBINE + DUCT BURNER (LB/DAY)	COOLING TOWER (LB/DAY)	TOTAL (LB/DAY)
ROC	59.1	90.2		149.3
NO _x	175.8	222.6		398.4
SO _x	34.2	66.8		101.0
PM ₁₀	60.0	84.0	3.1	147.1
CO	142.3	547.0		547.0 (A)

- (A) THE TOTAL DAILY CO EMISSIONS LIMIT OF 547 LB/DAY APPLIES TO ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING CO EMISSIONS FROM THE EMERGENCY USE IC ENGINE.
- (B) DAILY CO EMISSIONS SHALL BE CALCULATED AS FOLLOWS:
1. FOR THE BASELOAD GAS TURBINE AND THE DUCT BURNER (HRSG), CO EMISSION RATES SHALL BE DETERMINED BASED ON CEMS DATA AS GATHERED PURSUANT TO CONDITION NO. 22.
 2. FOR THE EMERGENCY USE IC ENGINE, CO EMISSION RATES SHALL BE CALCULATED AND RECORDED FOR ANY IC ENGINE OPERATING DAY BASED ON ACTUAL IC ENGINE OPERATING TIME (IN HOURS), MULTIPLIED BY THE EMERGENCY USE IC ENGINE CO EMISSION RATE OF 9.75 LB/HR.

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11. EMISSIONS OF NO_x AND PM₁₀ FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, COMBINED WITH THE LIKE EMISSIONS FROM THE DIGESTER GAS FIRED BOILERS (P/O NOS. 12476, 12477, 12478) AND THE DIGESTER GAS FIRED FLARES (OLD FLARES - P/O NO. 12526, NEW FLARES - P/O NO. 12475) LOCATED AT THE SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT (SRWTP) SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE COMBINED WITH BOILERS AND FLARES AT THE SRWTP				
	QUARTER 1 (LB/QUARTER)	QUARTER 2 (LB/QUARTER)	QUARTER 3 (LB/QUARTER)	QUARTER 4 (LB/QUARTER)	TOTAL (LB/YEAR)
NO _x	25,835	26,102	26,370	26,370	104,677
PM ₁₀	9,349	9,447	9,545	9,545	37,887

12. EMISSIONS OF ROC, SO_x AND CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE				
	QUARTER 1 (LB/QUARTER)	QUARTER 2 (LB/QUARTER)	QUARTER 3 (LB/QUARTER)	QUARTER 4 (LB/QUARTER)	TOTAL (LB/YEAR)
ROC	8,984	9,078	9,172	9,172	36,406
SO _x	5,661	5,724	5,786	5,786	22,957
CO	48,822	49,364	49,907	49,907	198,000

13. EMISSIONS OF ROC, NO_x, SO_x, PM₁₀ AND CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING THE EMERGENCY USE IC ENGINE, SHALL BE LESS THAN THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE ANNUAL EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY INCLUDING THE EMERGENCY USE IC ENGINE (LB/YEAR)
NO _x	106,700
CO	200,000 (A)
ROC	36,582
SO _x	23,013
PM ₁₀	38,003

(A) FOR CO EMISSIONS, LB/YEAR SHALL BE DEFINED AS ANY CONSECUTIVE 12 MONTH PERIOD.

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14. THE FOLLOWING EMISSION FACTORS SHALL BE USED FOR CALCULATING THE NO_x AND PM₁₀ EMISSIONS FOR THE BOILERS (P/O NOS. 12476, 12477, 12478) AND FLARES (OLD FLARES - P/O NO. 12526, NEW FLARES - P/O NO. 12475) AT THE SRWTP THAT ARE ADDED TO THE EMISSIONS OF THE EQUIPMENT AT THE CVFA CARSON FACILITY TO ENSURE COMPLIANCE WITH THE QUARTERLY AND YEARLY EMISSION LIMITS PURSUANT TO CONDITION NO. 11.

POLLUTANT	EMISSION FACTOR FOR CALCULATING NO _x AND CO LB/MMBTU		
	BOILERS	OLD FLARES	NEW FLARES
NO _x	0.0364	0.08	0.06
PM ₁₀	0.0137	0.0137	0.0137

15. THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) SHALL NOT EMIT MORE THAN 5 PPMVD NO_x AT 15% O₂, AVERAGED OVER ANY CONSECUTIVE THREE HOUR PERIOD, EXCLUDING STARTUPS AS DEFINED IN CONDITION NO. 21.
16. THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) SHALL NOT EMIT MORE THAN 20 PPMVD AMMONIA AT 15% O₂, MEASURED AS NH₃, AVERAGED OVER ANY CONSECUTIVE THREE HOUR PERIOD, EXCLUDING STARTUPS AS DEFINED IN CONDITION NO. 21.

EQUIPMENT OPERATION REQUIREMENTS

17. THE BASELOAD GAS TURBINE SHALL NOT COMBUST MORE THAN 450 MMBTU/HR (HHV) TOTAL NATURAL GAS AND DIGESTER GAS AND 90 MMBTU/HR (HHV) OF DIGESTER GAS.
18. THE DUCT BURNER (HRSG) SHALL NOT COMBUST MORE THAN 99.9 MMBTU/HR (HHV) TOTAL NATURAL GAS AND DIGESTER GAS.
19. THE DUCT BURNER (HRSG) SHALL NOT BE OPERATED UNLESS THE BASELOAD GAS TURBINE IS OPERATING.
20. THE BASELOAD GAS TURBINE AND/OR THE DUCT BURNER (HRSG) SHALL NOT BE OPERATED WITHOUT THE FULLY FUNCTIONING SELECTIVE CATALYTIC REDUCTION NO_x AIR POLLUTION CONTROL SYSTEM (P/O NO. 11015), EXCLUDING PERIODS OF STARTUPS AND SHUTDOWNS.
21. THE DURATION OF THE BASELOAD GAS TURBINE STARTUP PERIOD SHALL NOT EXCEED 60 MINUTES. THE STARTUP PERIOD IS DEFINED AS THE TIME WHEN FUEL IS FIRST INTRODUCED TO THE BASELOAD GAS TURBINE TO THE TIME WHEN THE EMISSIONS OF NO_x ARE CONTROLLED TO 5 PPMVD AT 15% O₂ OR LESS.

MONITORING SYSTEMS REQUIREMENTS

22. CVFA CARSON SHALL OPERATE A CONTINUOUS EMISSION MONITORING SYSTEM THAT HAS BEEN APPROVED BY THE AIR POLLUTION CONTROL OFFICER FOR THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) EMISSIONS.
- A. THE CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL MONITOR AND RECORD NITROGEN OXIDES, CARBON MONOXIDE AND OXYGEN.
- B. FOR NO_x AND O₂, THE CEMS SHALL COMPLY WITH U.S. EPA PERFORMANCE SPECIFICATIONS IN 40 CFR 75 APPENDIX A.
- C. FOR CO, THE CEMS SHALL COMPLY WITH U.S. EPA PERFORMANCE SPECIFICATIONS IN 40 CFR 60 APPENDIX B PERFORMANCE SPECIFICATION 4.
- D. MISSING CEMS DATA: FOR ANY ONE-HOUR TIME PERIOD (COMMENCING ON THE HOUR) DURING WHICH THE BASELOAD GAS TURBINE AND OR DUCT BURNER (HRSG) HAS COMBUSTED FUEL, AND DURING WHICH THE CEMS FOR THAT UNIT DID NOT PRODUCE VALID EMISSIONS DATA, EMISSIONS SHALL BE CALCULATED (EITHER MANUALLY BY THE OWNER/OPERATOR OR AUTOMATICALLY BY THE CEMS) AS FOLLOWS:
- 1) FIRST, THE CORRESPONDING MAXIMUM ALLOWABLE HOURLY EMISSION RATES LISTED IN CONDITION NO. 9 SHALL BE SUBSTITUTED FOR THE MISSING DATA. IF THIS MISSING DATA SUBSTITUTION PROCEDURE RESULTS IN EMISSIONS EXCEEDING ANY PERMIT CONDITION OR EMISSIONS LIMIT, THEN THE FOLLOWING ALTERNATIVE PROCEDURE (C.2) SHALL BE USED TO CALCULATE THE MISSING DATA VALUES.
 - 2) THE LAST 24 (NOT NECESSARILY CONSECUTIVE) HOURS OF VALID EMISSIONS DATA SHALL BE USED TO CALCULATE AN AVERAGE EMISSION RATE (POUNDS PER MILLION BTU). THIS AVERAGE EMISSION RATE AND THE FUEL USE FOR THE PERIOD OF MISSING DATA SHALL BE USED TO CALCULATE THE EMISSIONS FOR THAT PERIOD.

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23. CVFA CARSON SHALL OPERATE A CONTINUOUS PARAMETER MONITORING SYSTEM, THAT HAS BEEN APPROVED BY THE AIR POLLUTION CONTROL OFFICER, THAT EITHER MEASURES OR CALCULATES AND RECORDS THE FOLLOWING.

PARAMETER TO BE MONITORED	UNITS
A. TOTAL FUEL CONSUMPTION OF THE BASELOAD GAS TURBINE.	MMBTU/HR OF TOTAL NATURAL GAS AND DIGESTER GAS
B. DIGESTER GAS FUEL CONSUMPTION OF THE BASELOAD GAS TURBINE.	MMBTU/HR OF DIGESTER GAS
C. TOTAL FUEL CONSUMPTION OF THE DUCT BURNER (HRSG)	MMBTU/HR OF TOTAL NATURAL GAS AND DIGESTER GAS
D. DIGESTER GAS FUEL CONSUMPTION OF THE DUCT BURNER (HRSG)	MMBTU/HR OF DIGESTER GAS
E. FUEL CONSUMPTION OF BOILERS, NEW FLARES AND OLD FLARES AT SRWTP (A)	MMBTU/HR
F. H2S CONCENTRATION OF ALL DIGESTER GAS COMBUSTED AT THE PERMITTEE'S FACILITY	PPMVD

- (A) DUE TO THE STANDBY NATURE OF THE OLD FLARES AND LIMITATIONS OF THE CONTINUOUS EMISSIONS MONITORING SYSTEM, IN THE EVENT THAT THE OLD FLARES ARE UTILIZED, THEIR FUEL CONSUMPTION WILL BE RECORDED MANUALLY AND THE RESULTANT EMISSIONS WILL BE ADDED TO THE FACILITY EMISSIONS

RECORDKEEPING REQUIREMENTS

24. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON SITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY AND YEARLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS QUARTER OR YEAR RESPECTIVELY.

FREQUENCY	INFORMATION TO BE RECORDED
UPON OCCURRENCE	<p>A. OCCURRENCE AND DURATION OF ANY STARTUP OR SHUTDOWN.</p> <p>B. MALFUNCTION IN OPERATION OF THE BASELOAD GAS TURBINE.</p> <p>C. MEASUREMENTS FROM THE CONTINUOUS MONITORING SYSTEMS.</p> <p>D. MONITORING DEVICE AND PERFORMANCE TESTING RECORDS INCLUDING DATE, LOCATION, TIME OF SAMPLING, DATE ANALYSES WERE PERFORM BY LAB, COMPANY OR ENTITY THAT PERFORMED THE TEST AND ANALYSES, ANALYTICAL TECHNIQUES OR METHODS USED, THE RESULTS OF SUCH ANALYSES AND THE OPERATING CONDITIONS EXISTING AT THE TIME OF SAMPLING.</p> <p>E. ALL CONTINUOUS MONITORING SYSTEM PERFORMANCE EVALUATIONS.</p> <p>F. ALL CONTINUOUS MONITORING SYSTEM OR MONITORING DEVICE CALIBRATION CHECKS</p> <p>G. ADJUSTMENTS AND MAINTENANCE PERFORMED ON THESE SYSTEMS OR DEVICES.</p>
HOURLY	<p>H. DIGESTER GAS H2S CONCENTRATION (PPMVD).</p> <p>I. BASELOAD GAS TURBINE TOTAL NATURAL GAS AND DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>J. BASELOAD GAS TURBINE DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>K. DUCT BURNER (HRSG) TOTAL NATURAL GAS AND DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>L. DUCT BURNER (HRSG) DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>M. AN INDICATION OF WHEN BASELOAD GAS TURBINE STARTUP OCCURRED.</p> <p>N. BASELOAD GAS TURBINE AND DUCT BURNER ROC, NOx, SOx, PM10 AND CO HOURLY MASS EMISSIONS.</p> <p>O. BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) NOx CONCENTRATION MEASURED IN PPMVD AT 15% O2.</p>
DAILY	<p>P. BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) ROC, NOx, SOx, PM10 AND CO DAILY MASS EMISSIONS.</p> <p>Q. TOTAL FACILITY ROC, NOx, SOx, PM10 AND CO DAILY MASS EMISSIONS, EXCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p> <p>(i) FOR CO, THE DAILY MASS EMISSIONS SHALL INCLUDE THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p>

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FREQUENCY	INFORMATION TO BE RECORDED
MONTHLY	R. TOTAL FACILITY CO ANNUAL MASS EMISSIONS, INCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE. (i) THE CO ANNUAL MASS EMISSIONS SHALL BE CALCULATED BASED ON THE PREVIOUS 12 CONSECUTIVE MONTHS.
QUARTERLY	S. TOTAL FACILITY ROC, NOx, SOx, PM10 AND CO QUARTERLY MASS EMISSIONS, EXCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE. (i) FOR NOx AND PM10, THE QUARTERLY MASS EMISSIONS SHALL INCLUDE THE EMISSIONS FROM THE BOILERS AND FLARES AT THE SRWTP.
YEARLY	T. TOTAL FACILITY ROC, NOx, SOx AND PM10 ANNUAL MASS EMISSIONS, INCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.

REPORTING REQUIREMENTS

25. FOR EACH CALENDAR QUARTER SUBMIT TO THE AIR POLLUTION CONTROL OFFICER A WRITTEN REPORT WHICH CONTAINS THE FOLLOWING. EACH QUARTERLY REPORT IS DUE BY THE 30TH DAY FOLLOWING THE END OF THE CALENDAR QUARTER.

FREQUENCY	INFORMATION TO BE REPORTED
QUARTERLY BY: JANUARY 30 APRIL 30 JULY 30 OCTOBER 30	A. WHENEVER THE CONTINUOUS EMISSIONS MONITORING SYSTEM IS INOPERATIVE EXCEPT FOR ZERO AND SPAN CHECKS: (i) DATE AND TIME OF NON OPERATION OF THE CONTINUOUS EMISSION MONITORING SYSTEM (ii) NATURE OF THE CONTINUOUS EMISSION MONITORING SYSTEM REPAIRS OR ADJUSTMENTS. B. WHENEVER AN EMISSION OCCURS AS MEASURED BY THE REQUIRED CONTINUOUS EMISSION MONITORING SYSTEM THAT IS IN EXCESS OF ANY EMISSION LIMITATION: (i) MAGNITUDE OF THE EMISSION WHICH HAS BEEN DETERMINED TO BE IN EXCESS. (ii) DATE AND TIME OF THE COMMENCEMENT AND COMPLETION OF EACH PERIOD OF EXCESS EMISSIONS. (iii) PERIODS OF EXCESS EMISSIONS DUE TO START-UP, SHUTDOWN AND MALFUNCTION SHALL BE SPECIFICALLY IDENTIFIED. (iv) THE NATURE AND CAUSE OF ANY MALFUNCTION (IF KNOWN). (v) THE CORRECTIVE ACTION TAKEN OR PREVENTIVE MEASURES ADOPTED. C. IF THERE WERE NO EXCESS EMISSIONS FOR A CALENDAR QUARTER: (i) A REPORT SHALL BE SUBMITTED INDICATING THAT THERE WERE NO EXCESS EMISSIONS

COMPLIANCE TESTING REQUIREMENTS

26. AN ROC, NOx, SOx, CO AND AMMONIA SOURCE TEST OF THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) SHALL BE PERFORMED ONCE EVERY CALENDAR YEAR. A PM10 SOURCE TEST OF THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) SHALL BE PERFORMED IN CALENDAR YEAR 2001 AND EVERY FIFTH CALENDAR YEAR THEREAFTER.
- SUBMIT A TEST PLAN TO THE AIR POLLUTION CONTROL OFFICER FOR APPROVAL AT LEAST 30 DAYS BEFORE THE SOURCE TEST IS TO BE PERFORMED.
 - NOTIFY THE AIR POLLUTION CONTROL OFFICER AT LEAST 7 DAYS PRIOR TO THE EMISSION TESTING DATE.
 - DURING THE TEST, THE BASELOAD GAS TURBINE AND DUCT BURNER (HRSG) SHALL BE OPERATED AT MAXIMUM TOTAL FIRING CAPACITY, WITH THE MAXIMUM POSSIBLE PERCENTAGE OF DIGESTER GAS WITH REGARDS TO CONDITION NOS. 17 AND 18.
 - DURING THE TEST, THE BASELOAD GAS TURBINE SHALL ALSO TO BE OPERATED AT 50% OF MAXIMUM TOTAL FIRING CAPACITY FOR ROC AND CO.
 - SUBMIT THE SOURCE TEST RESULTS TO THE AIR POLLUTION CONTROL OFFICER WITHIN 60 DAYS FROM THE COMPLETION OF THE SOURCE TEST.

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YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>SMAQMD RULE NUMBER</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS
801	NEW SOURCE PERFORMANCE STANDARDS (40 CFR 60 SUBPART GG NEW SOURCE PERFORMANCE STANDARDS FOR GAS TURBINES)

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

**AIR QUALITY
MANAGEMENT DISTRICT****AUTHORITY TO CONSTRUCT**

A/C NO.: 22021, 22022, 22066**ISSUED BY:** Bruce Nixon, P.E.**DATE ISSUED:** August 11, 2009**DATE EXPIRES:** August 11, 2011**ISSUED TO:** Central Valley Financing Authority - Carson Cogeneration Project**LOCATION:** 8580 Laguna Station Road
Elk Grove**DESCRIPTION:** A/C 22021 [previous P/O 12829(rev3)]
Modify the existing LM6000PA combined cycle gas turbine to a newer model LM6000PC Sprint/EFS combined cycle gas turbine.

- A. Increase maximum fuel input to 500 MMBTU/hour.
- B. Reduce the NOx concentration emission limit from the modified combined cycle gas turbine from 5 ppmvd at 15% O2 to 2.5 ppmvd at 15% O2.
- C. Increase SO2 mass emission limits to account for increased fuel throughput.

A/C 22022

Install an oxidation catalyst to control the post-project CO mass emission level from the combined cycle gas turbine and duct burner to the pre-project CO mass emission limit level.

A/C 22066 [previous P/O 11014]

Modify the existing duct burner NOx emission concentration limit by reducing it from 5 ppmvd at 15% O2 to 2.5 ppmvd at 15% O2.

Authority to Construct Conditions**STARTUP REQUIREMENTS**

S1. Upon installation of the equipment authorized in this Authority to Construct, the owner/operator shall contact the Sacramento Metropolitan Air Quality Management District (SMAQMD) at (916) 874-4800 to schedule a startup inspection.

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A/C NO.: 22021, 22022, 22066

S2. This Authority to Construct shall serve as a temporary Permit to Operate provided that:

- A. The SMAQMD has been notified for a startup inspection.
- B. The equipment installed matches the equipment authorized in the Authority to Construct.
- C. The equipment is operated in compliance with all conditions listed within the Authority to Construct.

COMMISSIONING PERIOD

CM1. The commissioning period is defined as follows:

- A. The commissioning period shall commence when all mechanical, electrical and control systems associated with the LM6000PC Sprint/EFS combined cycle gas turbine upgrade are installed and the combined cycle gas turbine is first fired.
- B. The commissioning period shall terminate 30 operating days after commencement, or when the CVFA Carson facility has successfully completed performance testing, tuning and shakedown operations and compliance is demonstrated by continuous emissions monitoring equipment, whichever occurs first.
- C. For purposes of this condition, "operating day" is defined as any calendar day during which fuel is combusted in the combined cycle gas turbine or duct burner."

CM2. The permittee shall provide to the SMAQMD Air Pollution Control Officer written notification or electronic notification of the date that:

- A. Construction commenced, postmarked no later than 30 days after such date.
- B. The commissioning period commenced, postmarked no later than 3 weekdays (Monday through Friday) after such date.
- C. The commissioning period terminated, postmarked no later than 3 weekdays (Monday through Friday) after such date.

CM3. During the commissioning period, at the earliest feasible opportunity, in accordance with recommendations of the equipment manufacturers and the construction contractor, the combined cycle gas turbine combustors shall be tuned to minimize emissions.

CM4. During the commissioning period, compliance with NO_x and CO emission limits for the combined cycle gas turbine and duct burner shall be demonstrated through the use of properly operated and maintained continuous emission monitoring systems and continuous parameter monitoring systems for the following:

- A. Firing hours of the combined cycle gas turbine and duct burner
- B. Fuel flow rates to the combined cycle gas turbine and duct burner

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- C. Stack gas NOx emission concentrations
 - D. Stack gas CO emission concentrations
 - E. Stack gas O2 concentrations
- CM5. During the commissioning period the monitored parameters shall be recorded at least once every 15 minutes (excluding normal calibration periods or when the monitored source is not in operation) for the gas turbine and duct burner. Previously approved methods shall be used to calculate heat input rates, NOx and CO mass emission rates, and NOx and CO emission concentrations, summarized for each clock hour and each calendar day. All summarized clock hour and calendar day records shall be retained on site for at least 5 years from the date of entry and made available to SMAQMD personnel upon request.
- CM6. During the commissioning period the continuous emission and parameter monitors shall be installed, calibrated and operational prior to firing of the combined cycle gas turbine and duct burner with the LM6000PC Sprint/EFS upgrade. After initial firing of the combined cycle gas turbine and duct burner, the detection range of these continuous emission monitors shall be adjusted as necessary to accurately measure the resulting range of NOx and CO emission concentrations.
- CM7. During the commissioning period the total mass emissions of ROC, NOx, SO2, PM10 and CO that are emitted by the combined cycle gas turbine and duct burner shall accrue towards the daily, quarterly and yearly mass emission limits in Condition Nos. 7, 8, 9,10 and 11.
- CM8. During the commissioning period the concentration of nitrogen oxides (NOx) emissions from the gas turbine and duct burner shall not exceed the following limit:

Pollutant	Maximum Allowable NOx Concentration Combined Cycle Gas Turbine and Duct Burner ppmvd at 15% O2, averaged over any consecutive 3 hour period	
	Current Permit Limit	Permit Limit Applicable During the Commissioning Period
NOx	2.5	No limit

AUTHORITY TO CONSTRUCT**A/C NO.: 22021, 22022, 22066**

- CM9. During the commissioning period hourly mass emissions from the combined cycle gas turbine and duct burner shall not exceed the following limits:

Pollutant	Maximum Allowable Hourly Emissions Combined Cycle Gas Turbine and Duct Burner lb/hour, averaged over any consecutive 3 hour period	
	Current Permit Limits	Permit Limits Applicable During the Commissioning Period
ROC	3.75	3.75 (no change)
NOx	5.62	21.4
SO2	2.81	2.81 (no change)
PM10	3.50	3.50 (no change)
CO	40.00	40.00 (no change)

- CM10. The permittee shall perform an ROC, NOx, SO2, PM10, CO and ammonia (NH3) source test of the combined cycle gas turbine and duct burner within 60 days of termination of the commissioning period.

- A. Submit a Source Test Plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed. The Source Test Plan shall indicate that U.S. EPA approved test methods are used for NOx and CO.
- B. Notify the SMAQMD Air Pollution Control Officer at least 7 days prior to the source testing date if the date has changed from that approved in the Source Test Plan.
- C. During the source test, the combined cycle gas turbine and duct burner shall be operated at the maximum firing capacity, defined as $\geq 90\%$ of the heat input capacity achievable at the time of the source test, based on then current ambient conditions and with the maximum possible percentage of digester gas with regards to Condition Nos. 14 and 15.
- D. Submit the Source Test Report to the SMAQMD Air Pollution Control Officer within 60 days after the completion of the source test.

GENERAL REQUIREMENTS

1. The equipment shall be properly maintained.
2. The SMAQMD Air Pollution Control Officer and/or authorized representatives, upon the presentation of credentials, shall be permitted:
 - A. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this Authority to Construct, and

AUTHORITY TO CONSTRUCT

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- B. At reasonable times to have access to and copy any records required to be kept under the terms and conditions of this Authority to Construct, and
 - C. To inspect any equipment, operation or method required in this Authority to Construct, and
 - D. To sample emissions from the source or require samples to be taken.
3. This Authority to Construct does not authorize the emission of air contaminants in excess of those allowed by Division 26, Part 4, Chapter 3, of the California Health and Safety Code or the Rules and Regulations of the SMAQMD.
 4. A legible copy of this Authority to Construct shall be maintained on the premises with the equipment.

EMISSION LIMITS REQUIREMENTS

5. The combined cycle gas turbine and duct burner shall not discharge into the atmosphere any visible air contaminants other than uncombined water vapor, for a period or periods aggregating more than three minutes in any one hour, which are as dark or darker than Ringelmann No. 1 or equivalent to or greater than 20% opacity.
6. Except as specified in Condition Nos. CM8 and CM9, combined emissions from the combined cycle gas turbine and duct burner shall not exceed the following limits.

Pollutant	Maximum Allowable Emissions (A) Combined Cycle Gas Turbine and Duct Burner Combined	
	ppmvd at 15% O2 3 hour average	lb/hour 3 hour average
ROC	NA	3.75
NOx	2.5 (B)	5.62
SO2	NA	2.81
PM10	NA	3.50
CO	NA	40.00
Ammonia (NH3)	20	NA

(A) Excluding startups as defined in Condition No. 18.

(B) The 2.5 ppmvd NOx limit also applies individually to the combined cycle gas turbine and to the duct burner.

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7. Combined emissions from the combined cycle gas turbine and duct burner shall not exceed the following limits.

Pollutant	Maximum Allowable Quarterly Emissions (A) Combined Cycle Gas Turbine and Duct Burner Combined			
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter
NOx	10,705	10,822	10,940	10,940

(A) The purpose of requiring quarterly NOx mass emission limits is to facilitate the calculation of NOx emission reduction credits from the combined cycle gas turbine and duct burner modification.

8. Emissions from the following equipment shall not exceed the following limits.

Pollutant	Maximum Allowable Emissions lb/day			
	Peaking Gas Turbine	Combined Cycle Gas Turbine and Duct Burner	Cooling Tower	Total
ROC	59.1	90.2	-	149.3
NOx	175.8	134.8	-	310.6
SO2	34.2	67.4	-	101.6
PM10	60.0	84.0	3.1	147.1
CO	142.3	547.0	-	547.0 (A)

(A) The total daily CO emissions limit of 547.0 lb/day applies to all equipment at the CVFA Carson facility, including CO emissions from the emergency use internal combustion engine [SMAQMD P/O 11020(rev1)].

- i. Daily CO emissions shall be calculated as follows:

- For the combined cycle gas turbine, duct burner and the peaking gas turbine, CO emission rates shall be determined based on the CEMS data.
- For the emergency use internal combustion engine, CO emission rates shall be calculated and recorded for any engine operating day based on actual engine operating time, in hours, multiplied by the emergency use internal combustion engine's CO emission rate of 9.75 lb/hr.

9. Emissions from the following combined equipment shall not exceed the following limits:

- All equipment at the CVFA Carson facility, excluding the emergency use internal combustion engine, and
- Digester gas fueled boilers at the Sacramento Regional Wastewater Treatment Plant (SMAQMD P/O Nos. 19868, 19869 and 19870), and

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- C. Digester gas fueled flares at the Sacramento Regional Wastewater Treatment Plant (old flares - SMAQMD P/O No. 12526, new flares - SMAQMD P/O No. 16048).

Pollutant	Maximum Allowable Emissions				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Annual lb/year
NOx	19,289	19,483	19,678	19,678	78,128
PM10	9,349	9,447	9,545	9,545	37,887

10. Emissions from all equipment at the CVFA Carson facility, excluding the emergency use internal combustion engine, shall not exceed the following limits.

Pollutant	Maximum Allowable Emissions				
	Quarter 1 lb/quarter	Quarter 2 lb/quarter	Quarter 3 lb/quarter	Quarter 4 lb/quarter	Annual lb/year
ROC	8,984	9,078	9,172	9,172	36,406
SO2	5,722	5,785	5,849	5,849	23,205
CO	48,822	49,364	49,907	49,907	198,000

11. Emissions from all equipment at the CVFA Carson facility, including the emergency use internal combustion engine, shall be less than the following limits.

Pollutant	Maximum Allowable Annual Emissions lb/year
ROC	36,582
NOx	80,151
SO2	23,261
PM10	38,003
CO	200,000 (A)

(A) For CO emissions, annual shall be any consecutive 12-month period.

12. The emission factors below shall be used for calculating the NOx and PM10 emissions from the following equipment that are added to the emissions of the equipment at the CVFA Carson facility to ensure compliance with the quarterly and yearly emission limits pursuant to Condition No. 9:

- A. Digester gas fueled boilers at the Sacramento Regional Wastewater Treatment Plant (SMAQMD P/O Nos. 19868, 19869 and 19870), and

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- B. Digester gas fueled flares at the Sacramento Regional Wastewater Treatment Plant (old flares SMAQMD P/O No. 12526, new flares - SMAQMD P/O No. 16048).

Pollutant	Emission Factor lb/MMBTU		
	Boilers	Old Flares	New Flares
NOx	0.0364	0.08	0.06
PM10	0.0137	0.0137	0.0137

EQUIPMENT OPERATION REQUIREMENTS

13. The digester gas combusted by the combined cycle gas turbine and duct burner shall not have an H₂S content that exceeds 50 ppmvd H₂S averaged over any consecutive three-hour period.
14. The combined cycle gas turbine shall not combust more than 500 MMBTU/hour HHV total natural gas and digester gas and 90 MMBTU/hour HHV of digester gas.
15. The duct burner shall not combust more than 99.9 MMBTU/hour HHV total natural gas and digester gas.
16. The duct burner shall not be operated unless the combined cycle turbine is operating.
17. The combined cycle gas turbine and the duct burner shall not be operated without a fully functioning selective catalytic reduction NO_x air pollution control system (SMAQMD P/O No. 11015) and oxidation catalyst CO air pollution control system (SMAQMD A/C No. 22022), excluding periods of startups and shutdowns.
18. The duration of the combined cycle gas turbine startup period shall not exceed 60 minutes.
 - A. Startup period is defined as the time when fuel is first introduced to the combined cycle gas turbine to the time when the emissions of NO_x are controlled to 2.5 ppmvd at 15% O₂ or less.

MONITORING REQUIREMENTS

19. The permittee shall operate a continuous emission monitoring system (CEMS), that has been approved by the SMAQMD Air Pollution Control Officer, for the combined gas turbine and duct burner emissions.
 - A. The CEMS shall monitor and record nitrogen oxides, carbon monoxide and oxygen.
 - B. For NO_x and O₂, the CEMS shall comply with U.S. EPA Performance Specifications in 40 CFR 75 Appendix A.

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C. For CO, the CEMS shall comply with U.S. EPA Performance Specifications in 40 CFR 60 Appendix B Performance Specification 4.

20. The permittee shall operate a continuous parameter monitoring system that has been approved by the SMAQMD Air Pollution Control Officer that either, measures or calculates, and records the following.

Parameter to be Monitored	Units
A. Total fuel consumption of the combined cycle gas turbine.	MMBTU/hour of total natural gas and digester gas
B. Digester gas fuel consumption of the combined cycle gas turbine.	MMBTU/hour of digester gas
C. Total fuel consumption of the duct burner.	MMBTU/hour of total natural gas and digester gas
D. Digester gas fuel consumption of the duct burner (HRSG).	MMBTU/hour of digester gas
E. Fuel consumption of the boilers, new flares and old flares at the SRWTP. (A)	MMBTU/hour
F. H ₂ S concentration of all digester gas combusted at the permittee's facility.	ppmvd

(A) Due to the standby nature of the old flares and limitations of the continuous emissions monitoring system, in the event that the old flares are utilized, their fuel consumption will be recorded manually and the resultant emissions will be added to the facility emissions

RECORDKEEPING REQUIREMENTS

21. The following records shall be continuously maintained on site for the most recent five year period and shall be made available to the SMAQMD Air Pollution Control Officer upon request. Monthly, quarterly and yearly records shall be made available for inspection within 30 days of the end of the respective reporting period.

Frequency	Information to be recorded
Upon occurrence	<p>A. Date and duration of any startup or shutdown.</p> <p>B. Malfunction in operation of the combined cycle gas turbine.</p> <p>C. Measurements from the continuous monitoring system.</p> <p>D. Monitoring device and performance testing records including date, location, time of sampling, date analyses were performed by lab,</p>

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Frequency	Information to be recorded
	<p>company or entity that performed the test and analyses, analytical techniques or methods used, the results of such analyses and the operating conditions existing at the time of sampling.</p> <p>E. All continuous monitoring system performance evaluations.</p> <p>F. All continuous monitoring system or monitoring device calibration checks.</p> <p>G. Adjustments and maintenance performed on these systems or devices.</p>
Hourly	<p>H. Digester gas H₂S concentration (ppmvd).</p> <p>I. Combined cycle gas turbine total natural gas and digester gas fuel consumption (MMBTU/hour).</p> <p>J. Combined cycle gas turbine digester gas fuel consumption (MMBTU/hour).</p> <p>K. Duct burner total natural gas and digester gas fuel consumption (MMBTU/hour).</p> <p>L. Duct burner digester gas fuel consumption (MMBTU/hour).</p> <p>M. Indicate when the combined cycle gas turbine startups occurred.</p> <p>N. Combined cycle gas turbine and duct burner ROC, NO_x, SO₂, PM₁₀ and CO hourly mass emissions.</p> <p>O. Combined cycle gas turbine and duct burner NO_x concentration measured in ppmvd at 15% O₂.</p>
Daily	<p>P. Combined cycle gas turbine and duct burner ROC, NO_x, SO₂, PM₁₀ and CO daily mass emissions.</p> <p>Q. Total facility ROC, NO_x, SO₂, PM₁₀ and CO daily mass emissions, excluding the emergency use internal combustion engine (SMAQMD P/O 11020).</p> <p>i. For CO, the daily mass emissions shall include the emergency use internal combustion engine (SMAQMD P/O 11020).</p>
Monthly	<p>R. Total facility CO annual mass emissions, including the emergency use internal combustion engine (SMAQMD P/O 11020).</p> <p>i. The CO annual mass emissions shall be calculated based on the previous 12 consecutive months.</p>

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Frequency	Information to be recorded
Quarterly	<p>S. Combined cycle gas turbine and duct burner combined quarterly NOx mass emissions.</p> <p>T. Total facility ROC, NOx, SO₂, PM₁₀ and CO quarterly mass emissions, excluding the emergency use internal combustion engine (SMAQMD P/O 11020).</p> <p>i. For NOx and PM₁₀, the quarterly mass emissions shall include the emissions from the boilers and flares at the SRWTP.</p>
Yearly	<p>U. Total facility ROC, NOx, SO₂ and PM₁₀ annual mass emissions, including the emergency use internal combustion engine (SMAQMD P/O 11020).</p>

REPORTING REQUIREMENTS

22. For each calendar quarter submit to the SMAQMD Air Pollution Control Officer a written report which contains the following information. Each quarterly report is due by the 30th day following the end of the calendar quarter.

Frequency	Information to be Reported
Quarterly by: January 30 April 30 July 30 October 30	<p>A. Whenever the continuous emissions monitoring system is inoperative except for zero and span checks:</p> <p>i. Date and time of non operation of the continuous emission monitoring system</p> <p>ii. Nature of the continuous emission monitoring system repairs or adjustments.</p> <p>B. Whenever an emission occurs as measured by the required continuous emission monitoring system that is in excess of any emission limitation:</p> <p>i. Magnitude of the emission which has been determined to be in excess.</p> <p>ii. Date and time of the commencement and completion of each period of excess emissions.</p> <p>iii. Periods of excess emissions due to startup, shutdown and malfunction shall be specifically identified.</p> <p>iv. The nature and cause of any malfunction (if known).</p> <p>v. The corrective action taken or preventive measures adopted.</p>

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Frequency	Information to be Reported
	<p>C. If there were no excess emissions for a calendar quarter:</p> <p>i. A report shall be submitted indicating that there were no excess emissions.</p> <p>D. Evidence that the designated representative for the Acid Rain Program electronically reported to the U.S. EPA Administrator, within 30 days following the end of the calendar quarter, the data and information required by 40 CFR 75.64 for the previous calendar quarter.</p>

EMISSION TESTING REQUIREMENTS

23. An ROC, NO_x, SO₂, CO and ammonia (NH₃) source test and CEM accuracy (RATA) test of the combined cycle gas turbine and duct burner shall be performed once every calendar year. A PM₁₀ source test of the combined cycle gas turbine and duct burner shall be performed in calendar year 2001 and every fifth calendar year thereafter.
- A. Submit a Source Test Plan to the SMAQMD Air Pollution Control Officer for approval at least 30 days before the source test is to be performed.
- B. Notify the SMAQMD Air Pollution Control Officer, at least 7 days prior to the emission testing date, if the date has changed from that approved in the Source Test Plan.
- C. During the source test, the combined cycle gas turbine and duct burner shall be operated at the maximum firing capacity, defined as $\geq 90\%$ of the heat input capacity achievable at the time of the source test, based on then current ambient conditions and with the maximum possible percentage of digester gas with regards to Condition Nos. 14 and 15.
- D. During the source test, the combined cycle gas turbine shall also be operated at 50% of maximum total firing capacity for ROC and CO testing.
- E. Submit the Source Test Results Report to the SMAQMD Air Pollution Control Officer within 60 days from the completion of the source test.

AUTHORITY TO CONSTRUCT**A/C NO.: 22021, 22022, 22066****EMISSION REDUCTION CREDITS (ERCs) REQUIREMENTS**

24. The permittee shall surrender (and has surrendered - See Condition Nos. 25 and 26) ERCs to the SMAQMD Air Pollution Control Officer to offset the following amount of emissions:

Equipment - Combined Cycle Gas Turbine Duct Burner Peaking Gas Turbine Cooling Tower	Amount of Emission Offsets for which ERCs are to be Surrendered lb/quarter			
	Quarter 1	Quarter 2	Quarter 3	Quarter 4
NOx	24,160	24,427	24,695	24,695
PM10	8,849	8,947	9,045	9,045

25. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the NOx emission offset requirements as stated in Condition No. 24.

ERC Certificate No.	Face Value of Emission Reduction Credit Certificates lb/quarter				IPTR (A)	Offset Ratio	Value Applied to NOx Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 00050 Campbell Soup	24,184	24,380	24,984	27,136	NA	1.3:1	18,603	18,754	19,219	20,874
SMAQMD SRWTP	7,224	7,375	7,119	4,967	NA	1.3:1	5,557	5,673	5,476	3,821
Total NOx Emission Offsets							24,160	24,427	24,695	24,695

(A) IPTR = interpollutant trading ratio

(B) The Offset Ratio at the time of the original permitting of the facility combined the SMAQMD Rule 204 adjustment of 1.1 emission reductions to 1.0 ERCs with the SMAQMD Rule 202 offset ratio of 1.2 to 1.0.

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26. The following ERCs have been surrendered to the SMAQMD Air Pollution Control Officer to comply with the PM10 emission offset requirements as stated in Condition No. 24.

ERC Certificate No.	Face Value of Emission Reduction Credit Certificates lb/quarter				IPTR (A)	Offset Ratio	Value Applied to PM10 Emission Liability lb/quarter			
	Qtr 1	Qtr 2	Qtr 3	Qtr 4			Qtr 1	Qtr 2	Qtr 3	Qtr 4
SMAQMD 00051 SRWTP	1,990	2,986	3,019	2,055	NA	1.3:1	1,531	2,297	2,322	1,581
SMAQMD 00057 Swansons (ROC)	7,787	6,984	7,152	8,407	1:1	1.3:1	5,990	5,372	5,502	6,467
SMAQMD SRWTP	1,727	1,661	1,587	1,296	NA	1.3:1	1,328	1,278	1,221	997
Total PM10 Emission Offsets							8,849	8,947	9,045	9,045

(A) IPTR = interpollutant trading ratio

(B) The Offset Ratio at the time of the original permitting of the facility combined the SMAQMD Rule 204 adjustment of 1.1 emission reductions to 1.0 ERCs with the SMAQMD Rule 202 offset ratio of 1.2 to 1.0.

AUTHORITY TO CONSTRUCT**A/C NO.: 22021, 22022, 22066**

Your application for this air quality Authority to Construct was evaluated for compliance with Sacramento Metropolitan Air Quality Management District (SMAQMD), state and federal air quality rules. The following listed rules are those that are most applicable to the operation of your equipment. Other rules may also be applicable.

<u>SMAQMD Rule No.</u>	<u>Rule Title</u>
201	General Permit Requirements
202	New Source Review
301	Permit Fees - Stationary Sources
401	Ringelmann Chart
402	Nuisance
406	Specific Contaminants
413	Stationary Gas Turbines
420	Sulfur Content Of Fuels
801 (NSPS)	Standards of Performance for Stationary Combustion Turbines 40 CFR 60 Subpart KKKK [begin at 60.4300]

In addition, the conditions on this Authority to Construct may reflect some, but not all, requirements of these rules. There may be other conditions that are applicable to the operation of your equipment. Future changes in prohibitory rules may establish more stringent requirements which may supersede the conditions listed here.

For further information please consult your SMAQMD Rulebook or contact the SMAQMD for assistance.

PERMIT TO OPERATE

ISSUED TO: CENTRAL VALLEY FINANCING AUTHORITY - CARSON COGENERATION PROJECT

EQUIPMENT LOCATION: 8580 LAGUNA STATION ROAD, ELK GROVE

PERMIT NO.	EQUIPMENT DESCRIPTION
15535(rev2)	GAS TURBINE, PEAKING, GENERAL ELECTRIC, LM6000, SIMPLE CYCLE, 450 MMBTU/HOUR, NATURAL GAS AND DIGESTER GAS FUEL
11017	AIR POLLUTION CONTROL SELECTIVE CATALYTIC REDUCTION SYSTEM SERVING THE PEAKING TURBINE [P/O15535(REV2)]
11018	AIR POLLUTION CONTROL OXIDATION CATALYST SYSTEM SERVING THE PEAKING TURBINE [P/O15535(REV2)]

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL REQUIREMENTS

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE SMAQMD AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

DATE ISSUED: 12-20-2000
DATE REVISED: 10-29-2009
DATE EXPIRES: 10-01-2010 (unless renewed)

Larry Greene
SMAQMD Air Pollution Control officer

by: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
PERMIT TO OPERATE

5. **MALFUNCTION** - THE SMAQMD AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED OF ANY BREAKDOWN OF THE EMISSIONS MONITORING EQUIPMENT, ANY EQUIPMENT OR ANY PROCESS WHICH RESULTS IN AN INCREASE IN EMISSIONS ABOVE THE ALLOWABLE EMISSIONS LIMITS STATED AS A CONDITION OF THIS PERMIT OR ANY APPLICABLE STATE OR FEDERAL REGULATION OR WHICH AFFECTS THE ABILITY FOR THE EMISSIONS TO BE ACCURATELY DETERMINED. SUCH BREAKDOWNS SHALL BE REPORTED TO THE SMAQMD IN ACCORDANCE WITH THE PROCEDURES AND REPORTING TIMES SPECIFIED IN SMAQMD RULE 602 - BREAKDOWN CONDITIONS; EMERGENCY VARIANCE.
6. **SEVERABILITY:** IF ANY PROVISION, CLAUSE, SENTENCE, PARAGRAPH, SECTION OR PART OF THESE CONDITIONS, FOR ANY REASON, IS JUDGED TO BE UNCONSTITUTIONAL OR INVALID, SUCH JUDGMENT SHALL NOT AFFECT OR INVALIDATE THE REMAINDER OF THESE CONDITIONS.

EMISSION LIMIT REQUIREMENTS

7. THE EQUIPMENT SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT, OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
8. THE H₂S CONTENT OF ANY DIGESTER GAS COMBUSTED BY THIS EQUIPMENT SHALL NOT EXCEED 50 PPMVD H₂S, AVERAGED OVER ANY CONSECUTIVE THREE HOUR PERIOD.
9. EMISSIONS FROM THE PEAKING GAS TURBINE SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS (A) PEAKING GAS TURBINE	
	PPMVD AT 15% O ₂ 3 HOUR AVERAGE	LB/HOUR 3 HOUR AVERAGE
ROC	NA	2.46
NO _x	5	7.33
SO ₂	NA	1.42
PM ₁₀	NA	2.50
CO	NA	5.93
AMMONIA (NH ₃)	20	NA

(A) EXCLUDING START-UPS AS DEFINED IN CONDITION NO. 17.

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
PERMIT TO OPERATE**

10. A. PRIOR TO THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE DAILY EMISSIONS			
	PEAKING GAS TURBINE LB/DAY	COMBINED CYCLE GAS TURBINE AND DUCT BURNER LB/DAY	COOLING TOWER LB/DAY	TOTAL LB/DAY
ROC	59.1	90.2		149.3
NOx	175.8	222.6		398.4
SO2	34.2	66.8		101.0
PM10	60.0	84.0	3.1	147.1
CO	142.3	547.0		547.0 (A)

(A) THE TOTAL DAILY CO EMISSIONS LIMIT OF 547 LB/DAY APPLIES TO ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING CO EMISSIONS FROM THE EMERGENCY USE IC ENGINE.

(B) DAILY CO EMISSIONS SHALL BE CALCULATED AS FOLLOWS:

1. FOR THE PEAKING GAS TURBINE, CO EMISSION RATES SHALL BE DETERMINED BASED ON CEMS DATA AS GATHERED PURSUANT TO CONDITION NO. 18.
2. FOR THE EMERGENCY USE IC ENGINE, CO EMISSION RATES SHALL BE CALCULATED AND RECORDED FOR ANY IC ENGINE OPERATING DAY BASED ON ACTUAL IC ENGINE OPERATING TIME (IN HOURS), MULTIPLIED BY THE EMERGENCY USE IC ENGINE CO EMISSION RATE OF 9.75 LB/HR.

10. B. AFTER THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE DAILY EMISSIONS			
	PEAKING GAS TURBINE LB/DAY	COMBINED CYCLE GAS TURBINE AND DUCT BURNER LB/DAY	COOLING TOWER LB/DAY	TOTAL LB/DAY
ROC	59.1	90.2		149.3
NOx	175.8	134.8		310.6
SO2	34.2	67.4		101.6
PM10	60.0	84.0	3.1	147.1
CO	142.3	547.0		547.0 (A)

(A) THE TOTAL DAILY CO EMISSIONS LIMIT OF 547 LB/DAY APPLIES TO ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING CO EMISSIONS FROM THE EMERGENCY USE IC ENGINE.

(B) DAILY CO EMISSIONS SHALL BE CALCULATED AS FOLLOWS:

1. FOR THE PEAKING GAS TURBINE, CO EMISSION RATES SHALL BE DETERMINED BASED ON CEMS DATA AS GATHERED PURSUANT TO CONDITION NO. 18.
2. FOR THE EMERGENCY USE IC ENGINE, CO EMISSION RATES SHALL BE CALCULATED AND RECORDED FOR ANY IC ENGINE OPERATING DAY BASED ON ACTUAL IC ENGINE OPERATING TIME (IN HOURS), MULTIPLIED BY THE EMERGENCY USE IC ENGINE CO EMISSION RATE OF 9.75 LB/HR.

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
PERMIT TO OPERATE**

11. A. PRIOR TO THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS OF NO_x AND PM₁₀ FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, COMBINED WITH THE LIKE EMISSIONS FROM THE DIGESTER GAS FIRED BOILERS (P/O NOS. 19868, 19869, 19870) AND THE DIGESTER GAS FIRED FLARES (OLD FLARES - P/O NO. 12526, NEW FLARES - P/O NO. 16048) LOCATED AT THE SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT (SRWTP) SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE COMBINED WITH BOILERS AND FLARES AT THE SRWTP				
	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER	TOTAL LB/YEAR
NO _x	25,835	26,102	26,370	26,370	104,677
PM ₁₀	9,349	9,447	9,545	9,545	37,887

11. B. AFTER THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS OF NO_x AND PM₁₀ FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, COMBINED WITH THE LIKE EMISSIONS FROM THE DIGESTER GAS FIRED BOILERS (P/O NOS. 19868, 19869, 19870) AND THE DIGESTER GAS FIRED FLARES (OLD FLARES - P/O NO. 12526, NEW FLARES - P/O NO. 16048) LOCATED AT THE SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT (SRWTP) SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE COMBINED WITH BOILERS AND FLARES AT THE SRWTP				
	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER	TOTAL LB/YEAR
NO _x	19,289	19,483	19,678	19,678	78,128
PM ₁₀	9,349	9,447	9,545	9,545	37,887

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
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12. **A. PRIOR TO THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -**

EMISSIONS OF ROC, SO₂ AND CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE				
	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER	TOTAL LB/YEAR
ROC	8,984	9,078	9,172	9,172	36,406
SO ₂	5,661	5,724	5,786	5,786	22,957
CO	48,822	49,364	49,907	49,907	198,000

12. **B. AFTER THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -**

EMISSIONS OF ROC, SO₂ AND CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, EXCLUDING THE EMERGENCY USE IC ENGINE, SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE QUARTERLY EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY EXCLUDING THE EMERGENCY USE IC ENGINE				
	QUARTER 1 LB/QUARTER	QUARTER 2 LB/QUARTER	QUARTER 3 LB/QUARTER	QUARTER 4 LB/QUARTER	TOTAL LB/YEAR
ROC	8,984	9,078	9,172	9,172	36,406
SO ₂	5,722	5,785	5,849	5,849	23,205
CO	48,822	49,364	49,907	49,907	198,000

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
PERMIT TO OPERATE

13. A. PRIOR TO THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING THE EMERGENCY USE IC ENGINE, SHALL BE LESS THAN THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE ANNUAL EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY INCLUDING THE EMERGENCY USE IC ENGINE LB/YEAR
ROC	36,582
NOx	106,700
SO2	23,013
PM10	38,003
CO	200,000 (A)

(A) FOR CO EMISSIONS, LB/YEAR SHALL BE DEFINED AS ANY CONSECUTIVE 12 MONTH PERIOD.

13. B. AFTER THE MODIFICATION OF THE COMBINED CYCLE GAS TURBINE (A/C NOS. 22021, 22022 and 22066) -

EMISSIONS OF ROC, NOx, SO2, PM10 AND CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING THE EMERGENCY USE IC ENGINE, SHALL BE LESS THAN THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE ANNUAL EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY INCLUDING THE EMERGENCY USE IC ENGINE LB/YEAR
ROC	36,582
NOx	80,151
SO2	23,261
PM10	38,003
CO	200,000 (A)

(A) FOR CO EMISSIONS, LB/YEAR SHALL BE DEFINED AS ANY CONSECUTIVE 12 MONTH PERIOD.

- 14. THE FOLLOWING EMISSION FACTORS SHALL BE USED FOR CALCULATING THE NOx AND PM10 EMISSIONS FOR THE BOILERS (P/O NOS. 19868, 19869, 19870) AND FLARES (OLD FLARES - P/O NO. 12526, NEW FLARES - P/O NO. 16048) AT THE SRWTP THAT ARE ADDED TO THE EMISSIONS OF THE EQUIPMENT AT THE CVFA CARSON FACILITY TO ENSURE COMPLIANCE WITH THE QUARTERLY AND YEARLY EMISSION LIMITS PURSUANT TO CONDITION NO. 11.**

POLLUTANT	EMISSION FACTOR FOR CALCULATING NOx AND CO LB/MMBTU		
	BOILERS	OLD FLARES	NEW FLARES
NOx	0.0364	0.08	0.06
PM10	0.0137	0.0137	0.0137

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EQUIPMENT OPERATION REQUIREMENTS

15. THE PEAKING GAS TURBINE SHALL NOT COMBUST MORE THAN 450 MMBTU/HR (HHV) TOTAL NATURAL GAS AND DIGESTER GAS AND 90 MMBTU/HR (HHV) OF DIGESTER GAS.
16. THE PEAKING GAS TURBINE SHALL NOT BE OPERATED WITHOUT THE FULLY FUNCTIONING SELECTIVE CATALYTIC REDUCTION NO_x AIR POLLUTION CONTROL SYSTEM (P/O NO. 11017) AND THE FULLY FUNCTIONING OXIDATION CATALYST CO AIR POLLUTION CONTROL SYSTEM (P/O NO. 11018), EXCLUDING PERIODS OF STARTUPS AND SHUTDOWNS.
17. THE DURATION OF THE PEAKING GAS TURBINE STARTUP PERIOD SHALL NOT EXCEED 30 MINUTES. THE STARTUP PERIOD IS DEFINED AS THE TIME WHEN FUEL IS FIRST INTRODUCED TO THE PEAKING GAS TURBINE TO THE TIME WHEN THE EMISSIONS OF NO_x ARE CONTROLLED TO 5 PPMVD AT 15% O₂ OR LESS.

MONITORING SYSTEMS REQUIREMENTS

18. THE PERMITTEE SHALL OPERATE A CONTINUOUS EMISSION MONITORING SYSTEM THAT HAS BEEN APPROVED BY THE SMAQMD AIR POLLUTION CONTROL OFFICER FOR THE PEAKING GAS TURBINE EMISSIONS.
 - A. THE CONTINUOUS EMISSION MONITORING SYSTEM (CEMS) SHALL MONITOR AND RECORD NITROGEN OXIDES, CARBON MONOXIDE AND OXYGEN.
 - B. FOR NO_x AND O₂, THE CEMS SHALL COMPLY WITH U.S. EPA PERFORMANCE SPECIFICATIONS IN 40 CFR 75 APPENDIX A.
 - C. FOR CO, THE CEMS SHALL COMPLY WITH U.S. EPA PERFORMANCE SPECIFICATIONS IN 40 CFR 60 APPENDIX B PERFORMANCE SPECIFICATION 4.
19. THE PERMITTEE SHALL OPERATE A CONTINUOUS PARAMETER MONITORING SYSTEM, THAT HAS BEEN APPROVED BY THE SMAQMD AIR POLLUTION CONTROL OFFICER, THAT EITHER MEASURES OR CALCULATES AND RECORDS THE FOLLOWING.

PARAMETER TO BE MONITORED	UNITS
A. TOTAL FUEL CONSUMPTION OF THE PEAKING GAS TURBINE.	MMBTU/HR OF TOTAL NATURAL GAS AND DIGESTER GAS
B. DIGESTER GAS FUEL CONSUMPTION OF THE PEAKING GAS TURBINE.	MMBTU/HR OF DIGESTER GAS
C. FUEL CONSUMPTION OF BOILERS, NEW FLARES AND OLD FLARES AT THE SRWTP (A)	MMBTU/HR
D. H ₂ S CONCENTRATION OF ALL DIGESTER GAS COMBUSTED AT THE PERMITTEE'S FACILITY	PPMVD

- (A) DUE TO THE STANDBY NATURE OF THE OLD FLARES AND LIMITATIONS OF THE CONTINUOUS EMISSIONS MONITORING SYSTEM, IN THE EVENT THAT THE OLD FLARES ARE UTILIZED, THEIR FUEL CONSUMPTION WILL BE RECORDED MANUALLY AND THE RESULTANT EMISSIONS WILL BE ADDED TO THE FACILITY EMISSIONS

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RECORDKEEPING REQUIREMENTS

20. THE FOLLOWING RECORDS SHALL BE CONTINUOUSLY MAINTAINED ON SITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE SMAQMD AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY AND YEARLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS QUARTER OR YEAR RESPECTIVELY.

FREQUENCY	INFORMATION TO BE RECORDED
UPON OCCURRENCE	<p>A. OCCURRENCE AND DURATION OF ANY STARTUP OR SHUTDOWN.</p> <p>B. MALFUNCTION IN OPERATION OF THE PEAKING GAS TURBINE.</p> <p>C. MEASUREMENTS FROM THE CONTINUOUS MONITORING SYSTEMS.</p> <p>D. MONITORING DEVICE AND PERFORMANCE TESTING RECORDS INCLUDING DATE, LOCATION, TIME OF SAMPLING, DATE ANALYSES WERE PERFORM BY LAB, COMPANY OR ENTITY THAT PERFORMED THE TEST AND ANALYSES, ANALYTICAL TECHNIQUES OR METHODS USED, THE RESULTS OF SUCH ANALYSES AND THE OPERATING CONDITIONS EXISTING AT THE TIME OF SAMPLING.</p> <p>E. ALL CONTINUOUS MONITORING SYSTEM PERFORMANCE EVALUATIONS.</p> <p>F. ALL CONTINUOUS MONITORING SYSTEM OR MONITORING DEVICE CALIBRATION CHECKS</p> <p>G. ADJUSTMENTS AND MAINTENANCE PERFORMED ON THESE SYSTEMS OR DEVICES.</p>
HOURLY	<p>H. DIGESTER GAS H₂S CONCENTRATION (PPMVD).</p> <p>I. PEAKING GAS TURBINE TOTAL NATURAL GAS AND DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>J. PEAKING GAS TURBINE DIGESTER GAS FUEL CONSUMPTION (MMBTU/HR).</p> <p>K. AN INDICATION OF WHEN PEAKING GAS TURBINE STARTUP OCCURRED.</p> <p>L. PEAKING GAS TURBINE ROC, NO_x, SO₂, PM₁₀ AND CO HOURLY MASS EMISSIONS.</p> <p>M. PEAKING GAS TURBINE NO_x CONCENTRATION MEASURED IN PPMVD AT 15% O₂.</p>
DAILY	<p>N. PEAKING GAS TURBINE ROC, NO_x, SO₂, PM₁₀ AND CO DAILY MASS EMISSIONS.</p> <p>O. TOTAL FACILITY ROC, NO_x, SO₂, PM₁₀ AND CO DAILY MASS EMISSIONS, EXCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p> <p>i. FOR CO, THE DAILY MASS EMISSIONS SHALL INCLUDE THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p>
MONTHLY	<p>P. TOTAL FACILITY CO ANNUAL MASS EMISSIONS, INCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p> <p>i. THE CO ANNUAL MASS EMISSIONS SHALL BE CALCULATED BASED ON THE PREVIOUS 12 CONSECUTIVE MONTHS.</p>
QUARTERLY	<p>Q. TOTAL FACILITY ROC, NO_x, SO₂, PM₁₀ AND CO QUARTERLY MASS EMISSIONS, EXCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.</p> <p>i. FOR NO_x AND PM₁₀, THE QUARTERLY MASS EMISSIONS SHALL INCLUDE THE EMISSIONS FROM THE BOILERS AND FLARES AT THE SRWTP.</p>

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FREQUENCY	INFORMATION TO BE RECORDED
YEARLY	R. TOTAL FACILITY ROC, NO _x , SO ₂ AND PM ₁₀ ANNUAL MASS EMISSIONS, INCLUDING THE EMERGENCY USE INTERNAL COMBUSTION ENGINE.

REPORTING REQUIREMENTS

21. FOR EACH CALENDAR QUARTER SUBMIT TO THE SMAQMD AIR POLLUTION CONTROL OFFICER A WRITTEN REPORT WHICH CONTAINS THE FOLLOWING. EACH QUARTERLY REPORT IS DUE BY THE 30TH DAY FOLLOWING THE END OF THE CALENDAR QUARTER.

FREQUENCY	INFORMATION TO BE REPORTED
QUARTERLY BY: JANUARY 30 APRIL 30 JULY 30 OCTOBER 30	<p>A. WHENEVER THE CONTINUOUS EMISSIONS MONITORING SYSTEM IS INOPERATIVE EXCEPT FOR ZERO AND SPAN CHECKS:</p> <p>i. DATE AND TIME OF NON OPERATION OF THE CONTINUOUS EMISSION MONITORING SYSTEM.</p> <p>ii. NATURE OF THE CONTINUOUS EMISSION MONITORING SYSTEM REPAIRS OR ADJUSTMENTS.</p> <p>B. WHENEVER AN EMISSION OCCURS AS MEASURED BY THE REQUIRED CONTINUOUS EMISSION MONITORING SYSTEM THAT IS IN EXCESS OF ANY EMISSION LIMITATION:</p> <p>i. MAGNITUDE OF THE EMISSION WHICH HAS BEEN DETERMINED TO BE IN EXCESS.</p> <p>ii. DATE AND TIME OF THE COMMENCEMENT AND COMPLETION OF EACH PERIOD OF EXCESS EMISSIONS.</p> <p>iii. PERIODS OF EXCESS EMISSIONS DUE TO START-UP, SHUTDOWN AND MALFUNCTION SHALL BE SPECIFICALLY IDENTIFIED.</p> <p>iv. THE NATURE AND CAUSE OF ANY MALFUNCTION (IF KNOWN).</p> <p>v. THE CORRECTIVE ACTION TAKEN OR PREVENTIVE MEASURES ADOPTED.</p> <p>C. IF THERE WERE NO EXCESS EMISSIONS FOR A CALENDAR QUARTER:</p> <p>i. A REPORT SHALL BE SUBMITTED INDICATING THAT THERE WERE NO EXCESS EMISSIONS</p>

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EMISSION REDUCTION CREDITS (ERCs) REQUIREMENTS

22. THE PERMITTEE SHALL SURRENDER (AND HAS SURRENDERED - SEE CONDITION NOS. 23 AND 24) ERCs TO THE SMAQMD AIR POLLUTION CONTROL OFFICER TO OFFSET THE FOLLOWING AMOUNT OF EMISSIONS:

EQUIPMENT - COMBINED CYCLE GAS TURBINE DUCT BURNER PEAKING GAS TURBINE COOLING TOWER	AMOUNT OF EMISSION OFFSETS FOR WHICH ERCs ARE TO BE SURRENDERED LB/QUARTER			
	QUARTER 1	QUARTER 2	QUARTER 3	QUARTER 4
NOx	24,160	24,427	24,695	24,695
PM10	8,849	8,947	9,045	9,045

23. THE FOLLOWING ERCs HAVE BEEN SURRENDERED TO THE SMAQMD AIR POLLUTION CONTROL OFFICER TO COMPLY WITH THE NOx EMISSION OFFSET REQUIREMENTS AS STATED IN CONDITION NO. 22.

ERC CERTIFICATE NO.	FACE VALUE OF EMISSION REDUCTION CREDIT CERTIFICATES LB/QUARTER				IPTR (A)	OFFSET RATIO (B)	VALUE APPLIED TO NOx EMISSION LIABILITY LB/QUARTER			
	QTR 1	QTR 2	QTR 3	QTR 4			QTR 1	QTR 2	QTR 3	QTR 4
SMAQMD 00050 CAMPBELL SOUP	24,184	24,380	24,984	27,136	NA	1.3:1	18,603	18,754	19,219	20,874
SMAQMD SRWTP	7,224	7,375	7,119	4,967	NA	1.3:1	5,557	5,673	5,476	3,821
TOTAL NOx EMISSION OFFSETS							24,160	24,427	24,695	24,695

(A) IPTR = INTERPOLLUTANT TRADING RATIO

(B) THE OFFSET RATIO AT THE TIME OF THE ORIGINAL PERMITTING OF THE FACILITY COMBINED THE SMAQMD RULE 204 ADJUSTMENT OF 1.1 EMISSION REDUCTIONS TO 1.0 ERCs WITH THE SMAQMD RULE 202 OFFSET RATIO OF 1.2 TO 1.0.

24. THE FOLLOWING ERCs HAVE BEEN SURRENDERED TO THE SMAQMD AIR POLLUTION CONTROL OFFICER TO COMPLY WITH THE PM10 EMISSION OFFSET REQUIREMENTS AS STATED IN CONDITION NO. 22.

ERC CERTIFICATE NO.	FACE VALUE OF EMISSION REDUCTION CREDIT CERTIFICATES LB/QUARTER				IPTR (A)	OFFSET RATIO (B)	VALUE APPLIED TO PM10 EMISSION LIABILITY LB/QUARTER			
	QTR 1	QTR 2	QTR 3	QTR 4			QTR 1	QTR 2	QTR 3	QTR 4
SMAQMD 00051 SRWTP	1,990	2,986	3,019	2,055	NA	1.3:1	1,531	2,297	2,322	1,581
SMAQMD 00057 SWANSONS (ROC)	7,787	6,984	7,152	8,407	1:1	1.3:1	5,990	5,372	5,502	6,467

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ERC CERTIFICATE NO.	FACE VALUE OF EMISSION REDUCTION CREDIT CERTIFICATES LB/QUARTER				IPTR (A)	OFFSET RATIO (B)	VALUE APPLIED TO PM10 EMISSION LIABILITY LB/QUARTER			
	QTR 1	QTR 2	QTR 3	QTR 4			QTR 1	QTR 2	QTR 3	QTR 4
SMAQMD SRWTP	1,727	1,661	1,587	1,296	NA	1.3:1	1,328	1,278	1,221	997
TOTAL PM10 EMISSION OFFSETS							8,849	8,947	9,045	9,045

(A) IPTR = INTERPOLLUTANT TRADING RATIO

(B) THE OFFSET RATIO AT THE TIME OF THE ORIGINAL PERMITTING OF THE FACILITY COMBINED THE SMAQMD RULE 204 ADJUSTMENT OF 1.1 EMISSION REDUCTIONS TO 1.0 ERCS WITH THE SMAQMD RULE 202 OFFSET RATIO OF 1.2 TO 1.0.

SOURCE TESTING REQUIREMENTS

25. AN ROC, NO_x, SO₂, CO AND AMMONIA SOURCE TEST AND CEM ACCURACY (RATA) TEST OF THE PEAKING GAS TURBINE SHALL BE PERFORMED ONCE EVERY CALENDAR YEAR. A PM10 SOURCE TEST OF THE PEAKING GAS TURBINE SHALL BE PERFORMED IN CALENDAR YEAR 2001 AND EVERY FIFTH CALENDAR YEAR THEREAFTER.
 - A. SUBMIT A TEST PLAN TO THE SMAQMD AIR POLLUTION CONTROL OFFICER FOR APPROVAL AT LEAST 30 DAYS BEFORE THE SOURCE TEST IS TO BE PERFORMED.
 - B. NOTIFY THE SMAQMD AIR POLLUTION CONTROL OFFICER AT LEAST 7 DAYS PRIOR TO THE EMISSION TESTING DATE, IF THAT DATE HAS CHANGED FROM THE DATE APPROVED IN THE SOURCE TEST PLAN.
 - C. DURING THE SOURCE TEST, THE PEAKING GAS TURBINE SHALL BE OPERATED AT THE MAXIMUM FIRING CAPACITY, DEFINED AS $\geq 90\%$ OF THE HEAT INPUT CAPACITY ACHIEVABLE AT THE TIME OF THE SOURCE TEST, BASED ON THEN CURRENT AMBIENT CONDITIONS.
 - i. IF THE PEAKING GAS TURBINE HAS COMBUSTED DIGESTER GAS IN THE TIME PERIOD SINCE THE LAST SOURCE TEST, THEN DURING THE CURRENT SOURCE TEST, THE PEAKING GAS TURBINE SHALL COMBUST THE MAXIMUM AVAILABLE QUANTITY OF DIGESTER GAS AS LIMITED BY CONDITION NO. 15.
 - D. DURING THE TEST, THE PEAKING GAS TURBINE SHALL ALSO BE OPERATED AT 50% OF MAXIMUM TOTAL FIRING CAPACITY FOR ROC AND CO.
 - E. SUBMIT THE SOURCE TEST RESULTS TO THE SMAQMD AIR POLLUTION CONTROL OFFICER WITHIN 60 DAYS FROM THE COMPLETION OF THE SOURCE TEST.
 - F. THE SMAQMD AIR POLLUTION CONTROL OFFICER MAY WAIVE THE ANNUAL ROC AND SO₂ SOURCE TEST REQUIREMENT, IF, IN THE SMAQMD AIR POLLUTION CONTROL OFFICER'S SOLE JUDGMENT, PRIOR SOURCE TEST RESULTS INDICATE AN ADEQUATE COMPLIANCE MARGIN HAS BEEN MAINTAINED.

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
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YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

<u>SMAQMD RULE NO.</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	PERMIT FEES - STATIONARY SOURCE
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
413	STATIONARY GAS TURBINES
420	SULFUR CONTENT OF FUELS
801	NEW SOURCE PERFORMANCE STANDARDS (40 CFR 60 SUBPART GG NEW SOURCE PERFORMANCE STANDARDS FOR GAS TURBINES)

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR SMAQMD RULEBOOK OR CONTACT THE SMAQMD FOR ASSISTANCE.

PERMIT TO OPERATE

CARSON ENERGY GROUP AND CENTRAL VALLEY FINANCING AUTHORITY (CVFA)
8580 LAGUNA STATION ROAD
ELK GROVE, CA 95758

EQUIPMENT LOCATION: 8580 LAGUNA STATION RD., ELK GROVE

TO OPERATE

PERMIT NO.	EQUIPMENT DESCRIPTION
11019(rev1)	COOLING TOWER, 3 CELL, 22,000 GPM WATER CIRCULATION RATE.

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.
5. MALFUNCTION - THE AIR POLLUTION CONTROL OFFICER SHALL BE NOTIFIED OF ANY BREAKDOWN OF THE EMISSIONS MONITORING EQUIPMENT, ANY ENGINE EQUIPMENT, OR ANY PROCESS WHICH RESULTS IN AN INCREASE IN EMISSIONS ABOVE THE ALLOWABLE EMISSIONS LIMITS STATED AS A CONDITION OF THIS PERMIT OR ANY APPLICABLE STATE OR FEDERAL REGULATION OR WHICH AFFECTS THE ABILITY FOR THE EMISSIONS TO BE ACCURATELY DETERMINED. SUCH BREAKDOWNS SHALL BE REPORTED TO THE DISTRICT IN ACCORDANCE WITH THE PROCEDURES AND REPORTING TIMES SPECIFIED IN RULE 602 - BREAKDOWN CONDITIONS; EMERGENCY VARIANCE.

NORM COVELL

AIR POLLUTION CONTROL OFFICER

DATE ISSUED: 10-01-1998

DATE REVISED: 12-20-2000

DATE EXPIRES: 10-01-2000 (UNLESS RENEWED)

BY: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

6. SEVERABILITY - IF ANY PROVISION, CLAUSE, SENTENCE, PARAGRAPH, SECTION, OR PART OF THESE CONDITIONS FOR ANY REASON IS JUDGED TO BE UNCONSTITUTIONAL OR INVALID, SUCH JUDGEMENT SHALL NOT AFFECT OR INVALIDATE THE REMAINDER OF THESE CONDITIONS.

EMISSION LIMITS

7. THE EQUIPMENT SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS RINGELMANN NO. 1 OR GREATER.
8. EMISSIONS FROM THE COOLING TOWER SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE HOUR PERIOD.

POLLUTANT	EMISSION FACTOR (LB/GALLON)	MAXIMUM ALLOWABLE EMISSIONS (LB/HOUR)
PM10	1E-7	0.13

9. EMISSIONS FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS			
	PEAKING TURBINE (LB/DAY)	BASE LOAD TURBINE + DUCT BURNER (LB/DAY)	COOLING TOWER (LB/DAY)	TOTAL (LB/DAY)
PM10	60.0	84.0	3.1	147.1

10. EMISSIONS OF PM10 FROM ALL EQUIPMENT AT THE CARSON ENERGY GROUP AND CVFA FACILITY, EXCLUDING THE EMERGENCY STANDBY INTERNAL COMBUSTION ENGINE, COMBINED WITH THE LIKE EMISSIONS FROM THE DIGESTER GAS FIRED BOILERS (P/O'S 12476, 12477, & 12478) AND THE DIGESTER GAS FIRED FLARES (OLD FLARES - P/O 12526, NEW FLARES - 12475) LOCATED AT THE SACRAMENTO REGIONAL WASTEWATER TREATMENT PLANT (SRWTP) SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS				
	QTR 1 (LB/QUARTER)	QTR 2 (LB/QUARTER)	QTR 3 (LB/QUARTER)	QTR 4 (LB/QUARTER)	TOTAL (LB/YEAR)
PM10	9,349	9,447	9,545	9,545	37,887

11. EMISSIONS OF PM10 FROM ALL EQUIPMENT AT THE CARSON ENERGY GROUP AND CVFA FACILITY, INCLUDING THE EMERGENCY STANDBY INTERNAL COMBUSTION ENGINE, SHALL BE LESS THAN THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE EMISSIONS (LB/YEAR)
PM10	38,003

12. THE FOLLOWING EMISSION FACTORS SHALL BE USED FOR CALCULATING THE PM10 EMISSIONS FOR THE BOILERS (P/O'S 12476, 12477, & 12478) AND FLARES (OLD FLARES - P/O 12526, NEW FLARES - 12475) AT THE SRWTP THAT ARE ADDED TO THE EMISSIONS OF THE EQUIPMENT AT THE CARSON ENERGY GROUP AND CVFA FACILITY TO ENSURE COMPLIANCE WITH THE QUARTERLY AND YEARLY EMISSION LIMITS PURSUANT TO CONDITION 10.

POLLUTANT	UNITS	BOILERS	OLD FLARES	NEW FLARES
PM10	LB/MMBTU	0.0137	0.0137	0.0137

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

13. THE TOTAL DISSOLVED SOLIDS CONTENT OF THE CIRCULATING COOLING WATER SHALL NOT EXCEED 2000 PPMW.

EQUIPMENT OPERATION

14 THE COOLING TOWER SHALL NOT USE ANY CHROMIUM-CONTAINING WATER TREATMENT CHEMICALS.

MONITORING SYSTEMS

15. CARSON ENERGY GROUP AND CVFA SHALL OPERATE A CONTINUOUS MONITORING SYSTEM THAT HAS BEEN APPROVED BY THE AIR POLLUTION CONTROL OFFICER THAT EITHER MEASURES OR CALCULATES AND RECORDS THE FOLLOWING.

PARAMETER TO BE MONITORED	UNITS
TOTAL DISSOLVED SOLIDS CONTENT OF THE CIRCULATING WATER IN THE COOLING TOWERS	PPMW

RECORDKEEPING

16. THE FOLLOWING RECORD SHALL BE CONTINUOUSLY MAINTAINED ON SITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE AIR POLLUTION CONTROL OFFICER UPON REQUEST. QUARTERLY AND YEARLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE PREVIOUS QUARTER OR YEAR RESPECTIVELY.

FREQUENCY	INFORMATION TO BE RECORDED
GENERAL	A. RECORD OF THE OCCURRENCE AND DURATION OF ANY START-UP OR SHUTDOWN. B. MALFUNCTION IN OPERATION OF THE TWO TURBINES. C. MEASUREMENTS FROM THE CONTINUOUS MONITORING SYSTEM. D. MONITORING DEVICE AND PERFORMANCE TESTING MEASUREMENTS. E. ALL CONTINUOUS MONITORING SYSTEM PERFORMANCE EVALUATIONS. F. ALL CONTINUOUS MONITORING SYSTEM OR MONITORING DEVICE CALIBRATION CHECKS G. ADJUSTMENTS AND MAINTENANCE PERFORMED ON THESE SYSTEMS OR DEVICES.
HOURLY	A. TOTAL DISSOLVED SOLIDS CONTENT OF THE CIRCULATING WATER IN THE COOLING TOWERS IN PPMW. B. COOLING TOWER HOURLY PM10 MASS EMISSION RATE.
DAILY	A. COOLING TOWER PM10 DAILY EMISSIONS. B. TOTAL DAILY PM10 EMISSIONS FROM ALL EQUIPMENT AT THE CARSON ENERGY GROUP AND CVFA FACILITY, EXCLUDING THE STANDBY INTERNAL COMBUSTION ENGINE GENERATOR.
QUARTERLY	TOTAL FACILITY PM10 QUARTERLY MASS EMISSIONS, EXCLUDING THE STANDBY INTERNAL COMBUSTION ENGINE GENERATOR, INCLUDING THE EMISSIONS FROM THE BOILERS AND FLARES AT SRWTP.
YEARLY	TOTAL FACILITY PM10 ANNUAL EMISSIONS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO AIR QUALITY MANAGEMENT DISTRICT(AQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

AQMD RULE

NUMBER RULE TITLE

201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
401	RINGELMANN CHART

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO CONSTRUCT MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

FOR FURTHER INFORMATION PLEASE CONSULT YOUR AQMD RULEBOOK OR CONTACT THE AQMD FOR ASSISTANCE.

PERMIT TO OPERATE

ISSUED TO: CENTRAL VALLEY FINANCING AUTHORITY (CVFA) - CARSON COGENERATION PROJECT

EQUIPMENT LOCATION: 8580 LAGUNA STATION ROAD, ELK GROVE

PERMIT NO.	EQUIPMENT DESCRIPTION
11020(rev3)	IC ENGINE, EMERGENCY USE: 1. MANUFACTURER: DETROIT DIESEL 2. MODEL NO.: 12V-92TA 3. SERIAL NO.: 12VF009718 4. ENGINE BHP: 830 BHP 5. FUEL: CARB DIESEL 6. USE: EMERGENCY ELECTRICAL GENERATOR

SUBJECT TO THE FOLLOWING CONDITIONS:

GENERAL REQUIREMENTS

1. THE EQUIPMENT SHALL BE PROPERLY MAINTAINED.
2. THE SMAQMD AIR POLLUTION CONTROL OFFICER AND/OR AUTHORIZED REPRESENTATIVES, UPON THE PRESENTATION OF CREDENTIALS, SHALL BE PERMITTED:
 - A. TO ENTER UPON THE PREMISES WHERE THE SOURCE IS LOCATED OR IN WHICH ANY RECORDS ARE REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - B. AT REASONABLE TIMES TO HAVE ACCESS TO AND COPY ANY RECORDS REQUIRED TO BE KEPT UNDER THE TERMS AND CONDITIONS OF THIS PERMIT TO OPERATE, AND
 - C. TO INSPECT ANY EQUIPMENT, OPERATION, OR METHOD REQUIRED IN THIS PERMIT TO OPERATE, AND
 - D. TO SAMPLE EMISSIONS FROM THE SOURCE OR REQUIRE SAMPLES TO BE TAKEN.
3. THIS PERMIT DOES NOT AUTHORIZE THE EMISSION OF AIR CONTAMINANTS IN EXCESS OF THOSE ALLOWED BY DIVISION 26, PART 4, CHAPTER 3, OF THE CALIFORNIA HEALTH AND SAFETY CODE OR THE RULES AND REGULATIONS OF THE AIR QUALITY MANAGEMENT DISTRICT.
4. A LEGIBLE COPY OF THIS PERMIT SHALL BE MAINTAINED ON THE PREMISES WITH THE EQUIPMENT.

DATE ISSUED: 10-01-1998
DATE REVISED: 10-29-2009
DATE EXPIRES: 10-01-2010 (unless renewed)

Larry Greene
SMAQMD Air Pollution Control Officer

by: _____

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

PERMIT TO OPERATE

EMISSION LIMIT REQUIREMENTS

5. THE IC ENGINE SHALL NOT DISCHARGE INTO THE ATMOSPHERE ANY VISIBLE AIR CONTAMINANT OTHER THAN UNCOMBINED WATER VAPOR, FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR, WHICH IS AS DARK OR DARKER THAN RINGELMANN NO. 1 OR EQUIVALENT TO OR GREATER THAN 20% OPACITY.
6. EMISSIONS FROM THE IC ENGINE SHALL NOT EXCEED THE FOLLOWING LIMITS AVERAGED OVER A THREE HOUR PERIOD.

POLLUTANT	EMISSION FACTOR GRAMS/HP-HOUR	MAXIMUM ALLOWABLE EMISSIONS (F)		
		LB/HOUR	LB/QUARTER	LB/YEAR
ROC	0.481 (A)	0.88	176	176
NOx	10.504 (B)	19.22	3844	3844
SO2	0.005 (C)	0.01	2	2
PM10	0.32 (D)	0.58	116	116
CO	5.328 (E)	9.75	1950	1950

- (A) THE EMISSION FACTOR FOR ROC IS BASED ON MANUFACTURER'S DATA AND IS INCREASED BY 11% FOR EACH DEGREE OF FUEL INJECTION TIMING RETARDATION.
- (B) THE EMISSION FACTOR FOR NOx IS BASED ON MANUFACTURER'S DATA AND IS REDUCED BY 5% FOR EACH DEGREE OF FUEL INJECTION TIMING RETARDATION.
- (C) THE EMISSION FACTOR FOR SO2 IS BASED ON 0.0015% SULFUR BY WEIGHT IN THE FUEL.
- (D) THE EMISSION FACTOR FOR PM10 IS BASED ON U.S. EPA AP-42
- (E) THE EMISSION FACTOR FOR CO IS BASED ON MANUFACTURER'S DATA AND IS INCREASED BY 10% FOR EACH DEGREE OF FUEL INJECTION TIMING RETARDATION.
- (F) MASS EMISSIONS ARE BASED ON 830 BHP, 200 HOURS/QUARTER AND 200 HOURS/YEAR OF OPERATION.

7. EMISSIONS OF CO FROM THE FOLLOWING EQUIPMENT SHALL NOT EXCEED THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE DAILY EMISSIONS		
	PEAKING GAS TURBINE (LB/DAY)	COMBINED CYCLE GAS TURBINE AND DUCT BURNER (LB/DAY)	TOTAL (LB/DAY)
CO	142.3	547.0	547.0 (A)

- (A) THE TOTAL DAILY CO EMISSIONS LIMIT OF 547 LB/DAY APPLIES TO ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING CO EMISSIONS FROM THE EMERGENCY USE IC ENGINE.
- (B) DAILY CO EMISSIONS SHALL BE CALCULATED AS FOLLOWS:
 1. FOR THE COMBINED CYCLE GAS TURBINE, DUCT BURNER AND PEAKING GAS TURBINE, CO EMISSION RATES SHALL BE DETERMINED BASED ON CEMS DATA.
 2. FOR THE EMERGENCY USE IC ENGINE, CO EMISSION RATES SHALL BE CALCULATED AND RECORDED FOR ANY IC ENGINE OPERATING DAY BASED ON ACTUAL IC ENGINE OPERATING TIME (IN HOURS), MULTIPLIED BY THE EMERGENCY USE IC ENGINE CO EMISSION RATE OF 9.75 LB/HR.

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PERMIT TO OPERATE**

8. EMISSIONS OF CO FROM ALL EQUIPMENT AT THE CVFA CARSON FACILITY, INCLUDING THE EMERGENCY USE IC ENGINE, SHALL BE LESS THAN THE FOLLOWING LIMITS.

POLLUTANT	MAXIMUM ALLOWABLE ANNUAL EMISSIONS ALL EQUIPMENT AT THE CVFA CARSON FACILITY INCLUDING THE EMERGENCY USE IC ENGINE (LB/YEAR)
CO	200,000 (A)

(A) FOR CO EMISSIONS, LB/YEAR SHALL BE DEFINED AS ANY CONSECUTIVE 12 MONTH PERIOD.

EQUIPMENT OPERATION REQUIREMENTS

9. THE IC ENGINE SHALL OPERATE ONLY FOR THE FOLLOWING PURPOSES AND SHALL NOT OPERATE MORE THAN THE FOLLOWING HOURS:

TYPE OF OPERATIONAL HOURS	MAXIMUM ALLOWABLE OPERATION	
	HOURS/QUARTER	HOURS/YEAR
MAINTENANCE PURPOSES (A)	30	30
ALL OPERATION - MAINTENANCE AND EMERGENCY (B)	200	200

(A) MAINTENANCE PURPOSES IS DEFINED AS: THE OPERATION OF AN IC ENGINE IN ORDER TO PRESERVE THE INTEGRITY OF THE IC ENGINE, ITS ASSOCIATED GENERATOR OR THE FACILITY'S ELECTRICAL DISTRIBUTION SYSTEM, OR WHEN REQUIRED BY THE SMAQMD TO VERIFY COMPLIANCE WITH THE APPLICABLE RULES AND REGULATIONS.

(B) EMERGENCY IS DEFINED AS: WHEN ELECTRICAL SERVICE FROM THE SERVING UTILITY IS INTERRUPTED BY AN UNFORESEEABLE EVENT.

10. THE IC ENGINE SHALL BE EQUIPPED WITH A NON-RESETTING HOUR METER, WITH A MINIMUM DISPLAY CAPABILITY OF 999 HOURS, TO ENSURE COMPLIANCE WITH CONDITION NOS. 6, 7, 8 AND 9.
11. UPON REQUEST OF THE SMAQMD AIR POLLUTION CONTROL OFFICER, ONCE EACH YEAR, DURING DAYLIGHT HOURS, THE ENGINE SHALL BE RUN AT MAXIMUM ANTICIPATED LOAD FOR OBSERVATION OF COMPLIANCE WITH OPACITY LIMITATIONS.
12. THE FUEL INJECTION SYSTEM OF THE IC ENGINE SHALL BE MAINTAINED RETARDED FOUR (4) DEGREES RELATIVE TO THE MANUFACTURER'S RECOMMENDED STANDARD TIMING.
13. THE IC ENGINE SHALL BE FUELED WITH:
- A. CARB DIESEL FUEL, OR
 - B. AN ALTERNATIVE DIESEL FUEL THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE (AS CODIFIED IN TITLE 13, CCR, SECTIONS 2700-2710), OR
 - C. AN ALTERNATIVE FUEL, OR
 - D. CARB DIESEL FUEL USED WITH FUEL ADDITIVES THAT MEETS THE REQUIREMENTS OF THE VERIFICATION PROCEDURE, OR
 - E. ANY COMBINATION OF FUELS LISTED IN THIS CONDITION.

**SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
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RECORDKEEPING REQUIREMENTS

14. THE FOLLOWING RECORD SHALL BE CONTINUOUSLY MAINTAINED ON SITE FOR THE MOST RECENT FIVE YEAR PERIOD AND SHALL BE MADE AVAILABLE TO THE SMAQMD AIR POLLUTION CONTROL OFFICER UPON REQUEST. MONTHLY, QUARTERLY AND YEARLY RECORDS SHALL BE MADE AVAILABLE FOR INSPECTION WITHIN 30 DAYS OF THE END OF THE REPORTING PERIOD.

(Recordkeeping for Condition Nos. 7 and 8 is fulfilled by related recordkeeping in the facility's combined cycle gas turbine and peaking gas turbine Permits to Operate)

FREQUENCY	INFORMATION TO BE RECORDED
WHEN RECEIVING FUEL	A. RETAIN FUEL PURCHASE RECORDS THAT ACCOUNT FOR ALL FUEL PURCHASED FOR USE IN THE IC ENGINE. FUEL PURCHASE RECORDS SHALL INCLUDE: i. IDENTIFICATION OF TYPE OF FUEL (I.E. CARB DIESEL, ALTERNATE DIESEL, ETC.) ii. QUANTITY OF FUEL PURCHASED. iii. DATE OF FUEL PURCHASE. iv. SIGNATURE OF PERSON RECEIVING FUEL. v. SIGNATURE OF FUEL PROVIDER INDICATING THAT FUEL WAS DELIVERED.
WHEN OPERATED	B. DATE. C. PURPOSE – EITHER MAINTENANCE (M) OR EMERGENCY (E). D. NUMBER OF HOURS OF OPERATION
MONTHLY	E. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/MONTH).
QUARTERLY	F. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/QUARTER).
YEARLY	G. TOTAL NUMBER OF HOURS OF OPERATION FOR EACH OPERATING MODE (HOURS/YEAR).

SOURCE TESTING REQUIREMENTS

NO PERIODIC SOURCE TESTING REQUIREMENTS.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT
PERMIT TO OPERATE

YOUR APPLICATION FOR THIS AIR QUALITY PERMIT TO OPERATE WAS EVALUATED FOR COMPLIANCE WITH SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT (SMAQMD), STATE AND FEDERAL AIR QUALITY RULES. THE FOLLOWING LISTED RULES ARE THOSE THAT ARE MOST APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. OTHER RULES MAY ALSO BE APPLICABLE.

AQMD RULE

<u>NUMBER</u>	<u>RULE TITLE</u>
201	GENERAL PERMIT REQUIREMENTS
202	NEW SOURCE REVIEW
301	PERMIT FEES - STATIONARY SOURCE
401	RINGELMANN CHART
406	SPECIFIC CONTAMINANTS
420	SULFUR CONTENT OF FUELS
904	CARB AIR TOXICS CONTROL MEASURE - STATIONARY COMPRESSION IGNITION ENGINES

IN ADDITION, THE CONDITIONS ON THIS PERMIT TO OPERATE MAY REFLECT SOME, BUT NOT ALL, REQUIREMENTS OF THESE RULES. THERE MAY BE OTHER CONDITIONS THAT ARE APPLICABLE TO THE OPERATION OF YOUR EQUIPMENT. FUTURE CHANGES IN PROHIBITORY RULES MAY ESTABLISH MORE STRINGENT REQUIREMENTS WHICH MAY SUPERSEDE THE CONDITIONS LISTED HERE.

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